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ABSTRACT

Based on the evidence and theory that sex-role differentiation increases in salience during those later high school years as students prepare for their imminent transition into young adulthood, it was anticipated that there would be a lower orientation toward achievement among grade 12 girls than grade 10 girls, and, possibly, the opposite for boys. The data were based on the responses of 848 students to scales relevant to several categories of achievement orientation. Partial support for our expectation was found. Whereas among females, grade 12 students reported lower educational aspirations and feelings of academic self-confidence than did grade 10 students, among males no grade level differences in achievement orientation were found. Also, relative to grade 10 girls, grade 12 girls reported higher levels of anxiety and perceived less achievement emphasis in their school environments. The results are consistent with the view that as girls progress through high school, socialization pressures that are antithetical to achievement increase. (Author)

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On the Decline of the Achievement Orientation of High School Females[1]

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Running head: Decline of Achievement Orientation

Abstract

Based on the evidence and theory that sex-role differentiation increases in salience during the later high school years as students prepare for their imminent transition into young adulthood, it was anticipated that there would be a lower orientation toward achievement among grade 12 girls than grade 10 girls, and, possibly, the opposite for boys. The data were based on the responses of 848 students to scales relevant to several categories of achievement orientation. Partial support for our expectation was found. Whereas among females, grade 12 students reported lower educational aspirations and feelings of academic self-confidence than did grade 10 students, among males no grade level differences in achievement orientation were found. Also, relative to grade 10 girls, grade 12 girls reported higher levels of anxiety and perceived less achievement emphasis in their school environments. The results are consistent with the view that as girls progress through high school, socialization pressures that are antithetical to achievement increase.

INTRODUCTION

In trying to account for existing sex differences in achievement behavior and outcomes, the greatest amount of empirical and theoretical attention has been directed to the role of sociocultural influences, although many writers recognize the possible role of biological factors (Bardwick, 1972; Minton & Schneider, 1980; Stockard et al., 1980). Many explanations converge on the fundamental notion that sex differences in achievement behavior are largely the consequence of sex-differentiated socialization practices. As Rosen and Aneshensel (1978) affirm, "conventional sex role socialization incorporates interaction patterns and belief systems which differentially affect the educational and occupational expectations of girls and boys by, among other things, restricting career choices and channeling activities into areas considered proper for a particular sex" (p. 165).

At the core of the socialization of achievement behavior is a role differentiation that, on the one hand, encourages in females an emphasis on social relationships, marriage, and family, an emphasis that necessarily militates against their educational and vocational aspirations, and, on the other hand, promotes in males the importance of career and vocational status, thus reinforcing a committment to educational attainment and occupational advancement (Lipmen-Blumen & Tickamyer, 1975; Synge, 1977). This sex-differentiated socialization is exemplified by the fact that parents expect and encourage higher educational attainment in boys than girls (Marini, 1978; Synge, 1977) and generally display more positive attitudes toward the achievement activities of boys than girls (Frieze et al., 1978). Moreover,

Rubovitz (1975) found that parents are more likely to encourage girls to be dependent, conforming, cooperative, and unconcerned about grades, whereas they are more likely to encourage boys to be independent, initiating, competitive, and achieving.

A major assumption underlying the present research is that sex-role differentiation in the realm of achievement increases in salience during the high school years as students and those around them anticipate the students' imminent transition into young adulthood. This assumption is consistent with Baltes and Nesselroade's (1973) view that the influence of socializing agents is largely age specific (see also Neugarten, Moore, and Lowe's (1968) notion of "social clocks"). Thus, we view the high school years as a period of increased pressure on boys and girls to more closely approximate sex-differentiated adult patterns of achievement orientation. For the girl, high school is a time of increasing recognition that scholastic success may conflict with one's affiliative concerns (Bardwick, 1971; Golden & Cherry, 1982) and similarly that pursuit of a career may conflict with marriage and family plans (Farmer & Fyans, 1980; Parsons & Goff, 1980). Evidence of the adolescent girl's growing recognition of potential negative consequences of achievement comes from research that generally shows a positive association between fear of success and age in high school girls (Golden & Cherry, 1982). Parsons and Goff's (1980) research with college students indicates that even for females who desire professional careers the importance that they attach to successful motherhood will likely lead to a reduction in their aspirations and/or to the choice of a traditionally non-male career path.

On the basis of the above thinking we should expect adolescent girls to

show a decline in achievement emphasis during their high school years. There is some evidence of such a decline. For instance, Coleman (1961) found that as their high school years progressed, the best girl students became less likely to want to be remembered for their scholastic accomplishments. Also, whereas research suggests that the educational and vocational aspirations of boys may increase during the high school years, those for girls are likely to decline (Marini, 1978). Moreover, Simmons and Rosenberg (1975) studied children in grades 3 through 12 and found striking sex differences in achievement and affiliation desires, especially among adolescents. Compared with boys, girls were less likely to expect to attend college and rated being popular as more important than doing things well. Similarly Douvan and Adelson (1966) found that with increasing age boys showed a heightened concern with occupational success and girls a heightened concern with social and marital success. On the other hand, contrary to the developmental trend suggested by the findings of Simmons and Rosenberg (1975) and Douvan and Adelson (1966), Schneider and Coutts (1983) found little evidence of an increase in affiliation emphasis among girls as they progress through high school.

Our objective in this study was to further the investigation of the association between high school grade level and the achievement orientations of girls and boys. The data for the study were based on the responses of grade 10 and 12 students to scales relevant to the following categories of achievement orientation: (a) need for achievement, (b) educational attitudes, (c) interest in attending university, and (d) self-concept of academic ability. In recognition of the likely relevance of the role of anxiety to

understanding sex differences in achievement (Macdonald & Hyde, 1980), a measure of trait anxiety also was included. Morever, data were obtained on the environmental press (Stern, 1970) of the high schools, thus providing some insight into whether or not grade 10 and 12 students differed in their perceptions of how much emphasis on intellectual pursuits there was in their schools.

As indicated in the above rationale, we anticipated that the girls' responses would be more likely than those of the boys to suggest a decline in achievement emphasis across grade level. An explicit hypothesis was not made for each category of variables. We did, however, anticipate that grade 12 girls might show lower levels of achievement motivation and lower educational aspirations than grade 10 girls; and if, indeed, pressures antithetical to female achievement increase during adolescence, we anticipated the possibility that the grade 12 girls might perceive less achievement emphasis in their school environments than grade 10 girls. Because lack of progress in the realm of educational and vocational attainment represents a greater problem for females than for males, our primary focus in this introduction has been on the achievement orientation of females. Nonetheless, recognizing that the rationale underlying this study is clearly relevant to the achievement orientation of males, we anticipated the possibility of the occurrence of grade level differences among the male students, albeit in the opposite direction--greater achievement emphasis among the grade 12 boys, as well as the perception of greater environmental emphasis on achievement.

METHOD

Subjects

The subjects were 210 grade-10 males, 215 grade-10 females, 211 grade-12 males, and 212 grade-12 females from a total of five urban, coeducational high schools in Southwestern Ontario (minimum city population = 80,000). A Sex x Grade analysis of variance conducted on Blishen's (1967) index of socioeconomic status (based on father's occupation) suggested no significant group differences in social class.

Procedure and Questionnaire

The scales of concern were included in a questionnaire that was administered to the subjects on a group basis at their schools. The questionnaire was administered in the spring of 1973. The measures are described below and grouped according to their conceptual similarities.

Need for Achievement. The Achievement scale of the Personality Research Form (Form A; Jackson, 1968) was used to measure need for achievement. The scale is comprised of 20 self-descriptive items with possible scores ranging from 0 to 20. According to Jackson (1967), a high scoring individual "aspires to accomplish difficult tasks; maintains high standards and is willing to work toward distant goals; responds positively to competition; is willing to put forth effort to attain excellence" (p. 6).

Educational Attitudes. An Attitudes Toward Teachers Scale (adapted from Moore & Holtzman, 1965) and an Attitudes Toward High School Scale (adapted from Remers, 1967) were included. Both scales were comprised of 7 items, and each item had four alternative responses, ranging from strongly disagree (1) to strongly agree (4). The range of possible scores for each scale was from 0 to 21 (high score = negative attitude). Sample items from the Attitudes

Toward Teacher Scale are, "Most teachers understand the needs and interests of their students," and "Most teachers are too rigid and narrow-minded." Sample items from the Attitudes Toward High School Scale are, "A high school education will help me to be a good citizen," and "I can learn more working on a job than in high school." Reliability coefficients (coefficient alpha) for the two measures are .73 and .65 (Grant & Schneider, 1979).

Interest in Attending University. One question was asked to ascertain the students' interests in pursuing a university education: "Are you interested in attending university after high school?" Alternatives ranged from definitely not interested (1) to definitely interested (4).

Self-concept of Academic Ability. The subjects filled out a 4-item Self-Concept of Ability Scale (adapted from Binder, 1966). Sample items are "How do you rate yourself in ability compared with those in your grade at school?" and "Do you think you have the ability to graduate from university?" For each item there were five response alternatives. For example, the alternatives for the first item above ranged from I am among the poorest (1) to I am among the best (5). Possible scores range from 0 to 16 (high scores = positive self-concept). The reliability coefficient is .81 (Grant & Schneider, 1979).

Anxiety. The Anxiety scale of the Multiple Affect Adjective Check List (Zuckerman & Lubin, 1965) was used to measure trait anxiety. The 21 adjectives from the scale were embedded among 80 other adjectives. Subjects were instructed to mark the words that described how they generally feel; possible scores ranged from 0 to 21 (high scores = high anxiety).

Perception of School Environmental Emphasis on Intellectual Pursuits. The

students completed the Achievement scale and the Humanities, Social Science scale of the High School Characteristics Index (Stern, 1970), both of which had previously been shown to load highly on a Strong Intellectual Orientation factor derived from a factor analysis of the entire 30 scale Index (Mitchell, 1968). A respondent indicates whether or not each of 10 statements on a scale describes his/her school, with possible scale scores ranging from 0 to 10. Each scale (e.g., Achievement scale) on the High School Characteristics Index is interpreted as a measure of environmental press, that is, of the degree to which the school environment is perceived as contributing to the satisfaction of the relevant need (e.g., need for achievement). According to Stern (1970, p. 16), the Achievement scale and Humanities, Social Science scale were designed to measure the amount a school emphasizes "striving for success through personal effort" and encourages "interests in the humanities and social sciences," respectively. A sample item from the Achievement scale is, "There is a lot of competition for grades," and from the Humanities, Social Science scale, "Many teachers and students are involved with literary, musical, artistic, or dramatic activities outside the classroom."

Information regarding the course grades of the participating students was taken from the school records of only those students (83% of the sample) whose parents granted approval to obtain the information.

RESULTS

The data for each measure were analyzed by means of a Sex x Grade analysis of variance. The relevant means for the scales are presented in Table 1.

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Insert Table 1 about here

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School Grades

Significant effects of sex ($F(1, 700) = 23.25$, p .0001) and grade ($F(1, 700) = 3.91$, p .05) indicated that girls and grade 10 students had higher grade point averages than boys and grade 12 students, respectively.

Achievement Motivation

There was a borderline significant tendency for grade 12 students to score higher on need for achievement than grade 10 students ($F(1, 844) = 3.67$, p .06). Sex was not a significant factor.

Educational Attitudes

Sex was a significant source of variance on the Attitudes Toward High School Scale ($F(1, 844) = 6.57$, p .01) and achieved borderline significance on the Attitudes Toward Teachers Scale ($F(1, 844) = 3.24$, p .08). In each case, females had more positive attitudes than males. Also, compared with grade 12 students, grade 10 students had more favorable attitudes toward high school ($F(1, 844) = 65.30$, p .0001) and toward teachers ($F(1, 844) = 20.44$, p .0001).

Interest in Attending University

For the question concerning the students' interest in attending university, both sex ($F(1, 837) = 31.65$, p .0001) and the Sex x Grade interaction ($F(1, 837) = 5.58$, p .05) were significant. Post hoc analyses of the interaction indicated that whereas there was no difference between grade 10 and grade 12 boys, grade 12 girls expressed less interest in attending university than did their younger schoolmates (p .05). At both grade levels boys were significantly more interested in university than girls, although inspection of Table 1 suggests the sex difference was largest at the grade 12 level.

Self-Concept of Academic Ability

The Self-Concept of Academic Ability Scale showed a significant main effect of sex ($F(1, 841) = 12.61$, p .001) and a significant Sex x Grade interaction ($F(1, 841) = 4.64$, p .05). Analyses of the interaction indicated that girls had lower self-concepts of ability than boys, but the difference was significant (p .001) only at the grade 12 level. Moreover, grade was significant (p .05) for girls--grade 12 girls had lower self-concepts--but not for boys.[4]

Anxiety

As with the academic self-concept and interest-in-university measures, for the Anxiety scale, sex ($F(1, 841) = 6.72$, p .01) and the Sex x Grade interaction ($F(1, 841) = 5.07$, p .05) were significant. The interaction indicates that grade 12 females reported more anxiety than both grade 10 females (p .05) and grade 12 males (p .01)

Perception of School Environmental Emphasis on Intellectual Pursuits

A significant Sex x Grade interaction likewise was found for both the High School Characteristics Index Achievement scale ($F(1, 844) = 6.25$, p .05) and Humanities, Social Science scale ($F(1, 844) = 6.84$, p .01). Grade also was significant for the Achievement scale ($F(1, 844) = 11.49$, p .001). Analyses of the interactions again showed a significant difference between the grade 10 and grade 12 girls, with the latter perceiving less emphasis on achievement (p .001) and humanities, social science (p .01). Also, grade 10 girls perceived more achievement press than the grade 10 boys (p .05), and grade 12 boys perceived more humanities, social science press than the grade 12 girls (p .01).

DISCUSSION

At the outset of this study we assumed that the socialization practices to which children are exposed emphasize educational and vocational attainment in males and social/family relationships in females and that these emphases become increasingly salient during the high school years. This assumption led us to expect grade level by sex interactions showing a lower orientation toward achievement among grade 12 girls than grade 10 girls and, possibly, the opposite for boys. Some support for this expectation was found for the female students but not for the male students.

The anticipated interactions between sex and grade level did not occur for the measure of need for achievement or the measures of educational attitudes. However, in the latter case, the main effects of grade were significant, indicating that for both sexes, grade 12 students had less favorable attitudes toward high school and less favorable attitudes toward teachers. Moreover, as is commonly found (Minton & Schneider, 1980; Stockard et al., 1980), girls expressed more positive attitudes toward high school and tended to have more positive attitudes toward teachers.

On the other hand, the anticipated Sex x Grade interaction did pertain to all of the remaining measures, and, in each instance, a grade level difference occurred for girls but not for boys. The grade 12 girls expressed less interest in attending university than did the grade 10 girls. Moreover, at both grade levels, girls were less interested in university than were boys. These results represent another instance of a frequently found paradox: girls earn higher grades than boys (as was the case in this sample), yet their educational aspirations (and attainments) are lower, or at least, not higher,

than those of boys (Alexander & Eckland, 1974; Rosen & Aneshensil, 1978; Synge, 1977). The paradox is further compounded by the aforementioned evidence that girls possess more positive educational attitudes than boys. This pattern of results accords with the broader pattern that suggests that with respect to education, females are universally disadvantaged (Finn, Dulberg, & Reis, 1979). For instance, using longitudinal data from a national sample and after controlling for variables generally found to relate to educational attainment (e.g., academic ability and socioeconomic status), Alexander and Eckland (1974) found the expected educational attainment of females was lower than that of males.

The grade 12 girls not only expressed less interest in attending university than the grade 10 girls, they possessed less positive academic self-concepts than their younger counterparts. Also, at the grade 12 level boys had more positive self-concepts than girls. While the boys' more favorable academic self-concepts accord with the evidence that males generally have higher expectancies of success and more favorable evaluations their abilities (Frieze et al., 1978), it is noteworthy that the present sex difference occurred only among the older students. Thus, the picture that emerges is one in which, relative to the grade 10 girls, the grade 12 girls indicated less interest in university and possessed lower evaluations of their academic abilities. In accounting for these results we apply the rationale developed in the introduction in suggesting the likely possibility that the responses of the older students are reflective of attempts to cope with the increasing pressures associated with the female sex role. As indicated by the early work of Mathews and Tiedeman (1964), the inherent conflict between the

traditional female role and career commitment is likely to cause a decline in career commitment among adolescent girls and young women.

We suggest, then, that the older girls in our sample may have attempted to deal with their sex role/career conflicts by lowering their educational aspirations and/or by reducing their perceived academic potentials. Furthermore, the higher levels of anxiety that they report tie readily into this explanation as feelings of anxiety are likely to increase with increases in the intensity of role conflicts and often less-than-satisfactory attempts to resolve them. The higher levels of anxiety reported by the grade 12 girls parallel the evidence provided by Gove and Herb (1974) that among females mental illness rates, including the incidence of psychoneuroses, increase during adolescence. Gove and Herb suggest that the increased rates among females may be attributed to increased stresses associated with their adult sex role. Moreover, we also must recognize the possible consequences of the higher levels of anxiety in females than males. Particularly relevant to our present concern is that female anxiety has been singled out by several writers as a likely determinant of ultimate achievement differences between men and women (e.g., Frieze et al., 1978; Macdonald & Hyde, 1980).

Recall that we suggested in the introduction that if socialization pressures to achieve do indeed decrease for girls and increase for boys, such changes might be evident in the students' responses to measures of environmental press. In accordance with this expectation, relative to grade 10 girls, the grade 12 girls perceived their school environments as placing less emphasis on both achievement and humanities, social science. Thus the environmental press findings combine with those related to the students'

interest in university and their academic self-concepts in supporting the view that many high school females may show a decline in achievement orientation, resulting, at least in part, from an awareness that in their social/educational milieu expectations and pressures on them to achieve have diminished.

It is noteworthy that whereas consistent grade level differences were found for the female students, the responses of the male students were marked by a conspicious absence of such differences. One explanation for this is that although both males and females may be subjected to age-related changes in socialization pressures concerning achievement, the timetables may differ. For example, the pressures on females to curtail their achievement strivings may particularly intensify during the later high school years, whereas the pressures on males to accentuate their achievement strivings may intensify at other times or may be less age-specific and occur in a more gradual fashion.[5]

In conclusion, the present results are consistent with the view that as girls progress through high school, socialization pressures that are antithetical to achievement increase. Moreover, the results suggest that some of the undesirable consequences of such increased pressures may include a reduction in educational aspirations, a reduction in feelings of academic competence, and an increase in generalized anxiety. Finn et al. (1979) have affirmed that to deny a segment of society the benefits associated with the highest expectations and support is to deny equal opportunity in the educational system. Our data represent evidence of the untoward consequences of such denial and underscore the need for increased societal support for high achievement in females.

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Footnotes

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[4]A portion of the results relevant to the Self-Concept of Academic Ability Scale and the aforementioned Attitudes Toward High School Scale have been reported elsewhere (Schneider, Coutts, & Starr, 1979).

[5]In considering the present evidence, one should keep in mind the national background of the sample. Canadian society is more elitist and ascriptively oriented than United States society, and, as such, in Canada gender is a more influential variable in terms of educational opportunity and labor force participation (Gilbert, 1977). Nonetheless, the theoretical and empirical foundation underlying this study is predominantly based on work conducted in the United States, supporting the likely relevance of the results to the North American society as a whole.

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Table I. Mean Scores on Measures Related to Achievement Orientation

	Grade 10		Grade 12	
Measure	Males	Females	Males	Females
Grade point average	69.14_{ac}	71.96_{bc}	67.65_{ad}	70.95_{bd}
Achievement motivation	11.11_{ac}	11.10_{ac}	11.50_{ac}	11.65_{ac}
Attitudes toward high school[a]	5.85_{ac}	5.21_{bc}	7.58_{ad}	7.09_{bd}
Attitudes toward teachers[a]	8.73_{ac}	8.38_{ac}	9.97_{ad}	9.42_{ad}
Interest in university	3.28_{ac}	3.05_{bc}	3.38_{ac}	2.82_{bd}
Academic self-concept[b]	15.56_{ac}	15.28_{ac}	15.86_{ac}	14.71_{bd}
Anxiety	6.13_{ac}	6.22_{ac}	5.79_{ac}	7.02_{bd}
Achievement press	5.79_{ac}	6.24_{bc}	5.67_{ac}	5.50_{ad}
Humanities, social science press	3.36_{ac}	3.54_{ac}	3.55_{ac}	3.04_{bd}

Note. Within a grade level, different subscripts for the male mean (i.e., a) and female mean (i.e., b) indicate the sex difference achieved significance (p .05); the same subscripts (i.e., a, a) indicate no significant sex difference. Within a sex, different subscripts for the grade 10 mean (i.e., c) and grade 12 mean (i.e., d) indicate a significant grade difference; the same subscripts (i.e., c, c) indicate no significant grade difference.

[a]Low score indicates a positive attitude

[b]A high score indicates a positive self-concept